# MODIFICATION REVIEW

## For

## BEAMLINE
## PERSONNEL SAFETY SYSTEM

## ARGONNE NATIONAL LABORATORY
## ADVANCED PHOTON SOURCE
## EXPERIMENTAL FACILITIES

## E000P-971089

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PSS Change Request
27 May 1997

1. PSS Change

   Chain A:

   It will be necessary to add the minor, serious and major fault status to the shutter open routine to prevent SS1 and SS2 from remaining open in the event of a fault occurrence during the short interval of sequencing the Front End Shutters open.

   Chain A:

   Chain B is not affected and operates properly under this condition.

2. Reasons for the PSS Change.

   It was determined while validating beamline code with actual shutters, that the interval from start of open of SS1 and SS2 and prior to start of open of PS1 and PS2, (Approximately 3 seconds), a major fault could be generated which would leave SS1 and SS2 shutters in the open state. This major fault did not allow opening of PS1 and PS2 and it did cause the storage ring permit to go low dumping the ring. The only behavior that was incorrect was not closing SS1 and SS2 under this unique condition. The User panel Shutter Status LED correctly indicates an open Shutter when this condition occurs. While there was no opportunity for beam in the station after fault detection, this undesirable behavior would be unexpected by the User community and cause unnecessary confusion about beam status in the Station. It is also inconsistent with the concept that *all faults close all shutters* to allow the existing code to leave SS1 and SS2 in and open state. This change is required to correct the program behavior to that which is expected.

3. Extent of the PSS Change

   This change will affect all Chain A Beamline code written or modified on or after 04 June 1997.

4. Method of Implementation

   The changes will be applied using the existing Software Change Request mechanism as defined in the Software Configuration Management Procedures document E000P-921130-01 dated 03/25/96 for the Interlock Systems and Instrumentation Group.